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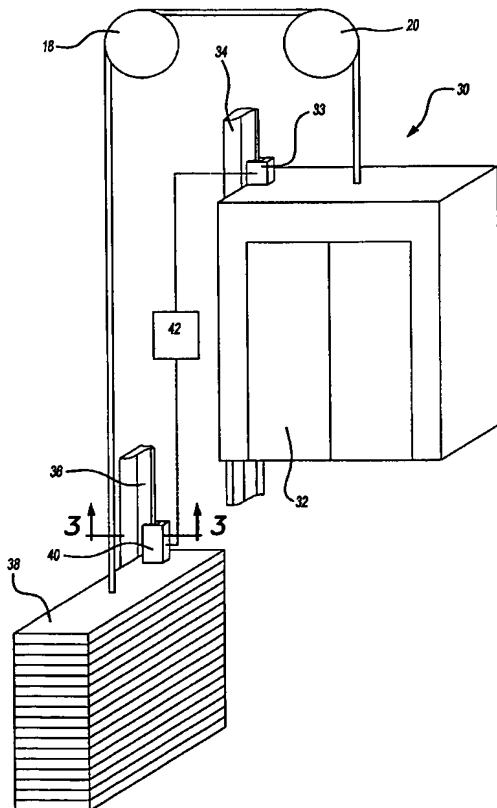
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(54) Title: ELEVATOR WITH VARIABLE DRAG FOR CAR AND COUNTERWEIGHT



(57) Abstract: An elevator car and counterweight system is provided with a variable drag element. The variable drag element is controlled such that the lower of the counterweight and the car has a higher drag against further movement. In an embodiment which is particularly useful in a 2:1 roping system, the sheaves (54, 58) associated with the counterweight (56) and the car (60) receive a braking/drive motor (62, 64) to provide the variable drag. While the present invention provides the variable drag to compensate for vertical differences between the counterweight and car, the invention can also be utilized to hold the car at a particular floor. Further, this invention can be utilized to address a counterweight or car jump situation. Another disclosed drag element may be a magnetizable member (40, 33) guided along a guide rail (34, 36) for each of the car (32) and the counterweight (38). A control controls the magnetic force associated with the guide elements to hold the car or prevent counterweight jump.

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